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SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

27 June 1996

Mr. Nick Magriples
U.S. Environmental Protection Agency
Removal Action Branch
2890 Woodbridge Avenue
Edison, NJ 08837

EPA CONTRACT NO: 68-W5-0019
TDD NO: 02-96-04-0003B
DOCUMENT CONTROL NO: START-02-F-00363
SUBJECT: SAMPLING QA/QC WORK PLAN - CORNELL-DUBILIER ELECTRONICS

Dear Mr. Magriples:

Enclosed please find the Sampling QA/QC Work Plan, excluding attachments, for the Cornell-Dubilier Electronics Site located in South Plainfield, Middlesex County, New Jersey. The plan has been revised to address your review comments provided in our telephone conversation on Thursday, 27 June 1996.

If you have any questions, do not hesitate to call me at (908) 225-6116.

Very truly yours,

ROY F. WESTON, INC.

Kathy Campbell
Project Manager

Enclosure

cc: TDD File
Joseph M. Soroka

TABLE 2: FIELD SAMPLING SUMMARY

Analytical Parameters	Matrix	Container Size	Preservative	Holding Time	Subtotal Samples	Rinsate Blanks†	Duplicate Samples	MS/MSD Samples	Field Samples
TCL Volatiles	Soil	2 120-ml wide-mouth glass jars	Cool to 4° C	10 days*	2		1	1	4
TCL Semivolatiles	Soil	8-oz. glass jar	Cool to 4° C	10 days*	2		1	1	4
TCL PCBs	Soil	8-oz. glass jar	Cool to 4° C	10 days*	max. 65		max. 4	max. 4	max. 73
TAL Metals	Soil	8-oz. glass jar	Cool to 4° C	180 days to analyze (except Hg - 28 days)	2		1	1	4
TCLP Scan	Soil	4 8-oz. glass jars	Cool to 4° C	10 days*	2		0	0	2
Total Metals (Cd, Cr, Pb, Hg, Ag)	Soil	8-oz. glass jar	Cool to 4° C	180 days to analyze (except Hg - 28 days)	max. 65		max. 4	max. 4	max. 73
TCL PCBs	Sediment-storm drain	8-oz. glass jar	Cool to 4° C	10 days*	max. 4	1/day†	1	1	max. 6
Total Metals (Cd, Cr, Pb, Hg, Ag)	Sediment-storm drain	8-oz. glass jar	Cool to 4° C	180 days to analyze (except Hg - 28 days)	max. 4		1	1	max. 6
Total Organic Carbon	Sediment-stream	8-oz. glass jar	Cool to 4° C	28 days*	1		0	0	1
Grain size	Sediment-stream	8-oz. glass jar	Cool to 4° C		1		0	0	1
TCL Volatiles	Oil/Liquid	2 40-ml glass vials	Cool to 4° C	10 days*	max. 3		1	1	max. 5
TCL PCBs	Oil/Liquid	1L amber glass bottle	Cool to 4° C	10 days*	max. 3		1	1	max. 5
Total Metals (Cd, Cr, Pb, Hg, Ag)	Oil/Liquid	1L polyethylene bottle	Cool to 4° C	180 days to analyze (except Hg - 28 days)	max. 3		1‡	1‡	max. 5

* Holding time is determined from the date of collection to extraction and/or analysis. Extracts for organic fraction analyses must be analyzed within 40 days of the date of extraction.

† One composite rinsate sample per sampling day. Rinsate blank sample volumes and container sizes are as follows: Total metals (1 1-L poly), TCL Volatiles (2 40-ml glass vials), TCL Semivolatiles and TCL PCBs (4 1-L amber bottles), and TOC (1 1-L amber).

‡ Limited volume of spilled material may not allow for field duplicate and MS/MSD samples.

AMENDMENT TO SITE SAFETY PLAN

Project Name: Cornell-Dubilier Electronics
South Plainfield, Middlesex County, New Jersey

USEPA Site ID.#: GZ

DCN #: START-02-F-00369

TDD #: 02-9604-0003B

Prepared in Conjunction With

The Region II U.S. Environmental Protection Agency
Removal Action Branch

and

Roy F. Weston, Inc.
Superfund Technical Assessment and Response Team

For

The U.S. Environmental Protection Agency
Region II - Emergency and Remedial Response Division

Adopted By: *Sam R. Hollett* Date: 7/19/96
For Roy F. Weston, Inc.

Adopted By: *Nick Hagopides* Date: 8/7/96
For U.S. EPA

INTRODUCTION

This Amendment to the Cornell-Dubilier Site Safety Plan has been prepared to address health and safety issues related to the excavation and sampling of test pits at the Cornell-Dubilier Electronics site. The excavation of test pits will be performed by Goldstar Environmental Services, Inc. (Middlesex, NJ).

The original Site Safety Plan (DCN: START-02-F-00323) was reviewed and approved internally by the START Regional Safety Officer. The following sections describe the additional tasks and associated changes to the original site safety plan.

2.0 SITE BACKGROUND AND SCOPE OF WORK

The scope of work has been expanded to include the following additional tasks:

Task #	Description	Time Frame
1	Excavation of Test Pits	2 days
2	Soil Sampling	*
3	Field Screening	*
4	Backfilling	*

* - The time frame for this task number is included with the time frame of Task Number 1.

2.3 Scope of Work for START

START will continue to provide technical assistance and documentation for the removal assessment. Duties will include air monitoring during test pit excavation using a photoionization detector (PID), a flame ionization detector (FID, organic vapor analyzer), a CGI/O₂ (combustible gas indicator/oxygen meter), a Miniram particulate monitor and a radiation meter. START will collect samples for off-site laboratory analysis. These samples will be obtained from the bucket of the backhoe and may consist of soil, and liquids/oil or solids from buried transformers or drums. START personnel will not enter the test pits. If spilled oily liquids or encountered during test pits excavation, field screening for PCBs will also be conducted on free liquids and/or oil-stained soil. For materials that are liquids, other than oil, or solids, additional limited field screening/hazard categorization testing may be performed. Other activities include any additional site-specific tasks which may require technical expertise.

2.3 Scope of Work for Subcontractor

The Subcontractor will provide test pit excavation services, decontaminate their equipment as

specified in the subcontract and may be required to overpack leaking transformers and/or drums encountered during excavating.

3.0 TASK SAFETY AND HEALTH RISK ANALYSIS

This hazard assessment identifies the general hazards associated with specific site operations and presents an analysis of documented or potential chemical hazards that exist at the site. Every effort must be made to reduce or eliminate these hazards. Those which cannot be eliminated must be guarded against by use of engineering controls and/or personal protective equipment.

3.1 Activity-Specific Hazards and Standard Operating Procedures (SOPs)

The following section presents possible activity-specific site hazards and associated SOPs, if applicable.

3.1.2 Task-Specific Hazards and Preventive Measure

Task 1 - Excavation of Test Pits

<u>Hazard</u>	<u>Preventive Measure</u>
Underground and Aboveground Utilities	<ul style="list-style-type: none">- Identify all underground utilities around the excavation site before the work commences.- Cease work immediately if unknown utility markers are uncovered.
Struck By/Against Heavy Equipment	<ul style="list-style-type: none">- Use reflective warning vests when exposed to vehicular traffic.- Isolate equipment swing areas.- Make eye contact with operators before approaching equipment.- Understand and review hand signals.
Sharp Objects	<ul style="list-style-type: none">- Wear cut-resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects.- Maintain all hand and power tools in a safe condition.
High Noise Levels	<ul style="list-style-type: none">- Keep guards in place during use.- Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period).

Excavation Wall Collapse

- Construct diversion ditches or dikes to prevent surface water from entering excavation.
- Provide good drainage of area adjacent to excavation.
- Store excavated material at least 2 feet from the edge of the excavation; prevent excessive loading of the excavation face.
- Provide sufficient stairs, ladders, or ramps when workers enter excavations over 4 feet in depth.
- Treat excavations over 4 feet deep as confined spaces (START will not be conducting any confined space entries).
- Monitor atmosphere for flammable/toxic vapors, and oxygen deficiency.

Slips, Trips, Falls

- Clear walkways, work areas of equipment, vegetation, excavated material, tools, and debris.
- Mark, identify, or barricade other obstructions.

Handling Heavy Objects

- Observe proper lifting techniques.
- Obey sensible lifting limits (60 lb. maximum per person manual lifting).
- Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads.

Inhalation of Hazardous substances

- Level B/C PPE; continuous air monitoring.

Task 2 - Soil Sampling

Inhalation of hazardous particles

- Level B/C PPE; continuous air monitoring.

Dermal contact with soil contaminants

- PPE [Tyvek coverall (Saranex for sediment sampling), nitrile gloves, latex boots].

- | | | |
|------------------------|---|--|
| Slips, trips & falls | - | Area cleared; hazards identified. |
| Unexpected emergencies | - | Back-up personnel; Emergency Response Plan (Section 10 in Site Safety Plan). |
| Tick bites | - | PPE; visible inspection. |
| Heat Stress | - | Training; personnel monitoring (See Attachment B). |

Task 3 - Field Screening

- | | | |
|---------------------------------------|---|--|
| Inhalation of hazardous substances | - | Level C PPE, air monitoring. |
| Dermal contact with soil contaminants | - | PPE [Tyvek coverall (Saranex for sediment sampling), nitrile gloves, latex boots]. |
| Fire/Explosion | - | Follow all procedures as provided in the Field Screening SOP (Attachment F). |
| | - | Use only 5 grams of sample for testing. |
| | - | Eliminate sources of ignition from work area. |
| | - | Test atmosphere with combustible gas meter. |
| | - | Store flammable liquids in well ventilated areas. |
| | - | Store combustible materials away from flammable materials. |

- | | | |
|----------------------|---|--|
| Slips, trips & falls | - | Work area cleared; hazards identified. |
|----------------------|---|--|

Task 4 - Backfilling

- | | | |
|---------------------|---|---|
| Slips, Trips, Falls | - | Clear walkways, work areas of equipment, vegetation, excavated material, tools, and debris. |
| | - | Mark, identify, or barricade other obstructions. |

Struck By/Against Heavy Equipment

- Use reflective warning vests when exposed to vehicular traffic.
- Isolate equipment swing areas.
- Make eye contact with operators before approaching equipment.
- Understand and review hand signals.

Sharp Objects

- Wear cut-resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects.
- Maintain all hand and power tools in a safe condition.
- Collect ground water/rain water from excavation and dispose of properly
- Keep guards in place during use.

5.5 Activity-Specific Levels of Protection

The required level of protection is specific to the activity being conducted. At this site the minimum levels of protection are as follows:

<i>Activity</i>	<i>Level of Protection</i>
Test Pit Excavation	B*/C†
Soil Sampling	B*/C†
Field Screening	C†
Backfilling	C†

NOTES:

* All work in Level B will be performed with continuous air monitoring. While working in Level B, a downgrade to Level C may be enacted when air monitoring readings on the PID or OVA range between 0 to 5 units above background concentrations.

† All work in Level C will be performed with continuous air monitoring, unless air monitoring results warrant upgrading to Level B (e.g., readings above 5 units with the PID or OVA, or above the TLV of known contaminants).

7.2 Site-Specific Air Monitoring Requirements

Instrument	Compounds to Detect	Frequency	Comments/ Action Level
Combustible Gas Indicator (CGI)	Explosive/Flammable Atmosphere	Continuously during Level C operations & as in Sections 5 and 7.1	> 20 % LEL - Operations cease and corrective actions taken
Oxygen Meter	Oxygen	Continuously during Level C operations & as in Sections 5 and 7.1	< 19.5 % - Wear SCBA; CGI readings invalid 19.5 - 23 % - Normal ambient air > 23 % - Evacuate, investigate cause and mitigate
HNu-PID & OVA	Organic Vapors & Gases	Continuously during Level C operations & as in Sections 5 and 7.1	> 5 units - Upgrade to Level B Background to 5 units - Level C ≈ TLV - Upgrade to Level B for known contaminants > 500 units - Upgrade to Level A
LUDLUM MODEL 19 MICRO R METER	Low Level Gamma Radiation	Initial Site Entry	Action Level = 3 times background radiation. Operation ceases above action level.
Miniram Monitor	Particulates/nuisance dust	Continuously during sampling operations	Action Level for upgrade to Level C: Miniram 8-hr. TWA ≥ 1.36 mg/m ³ over background*.

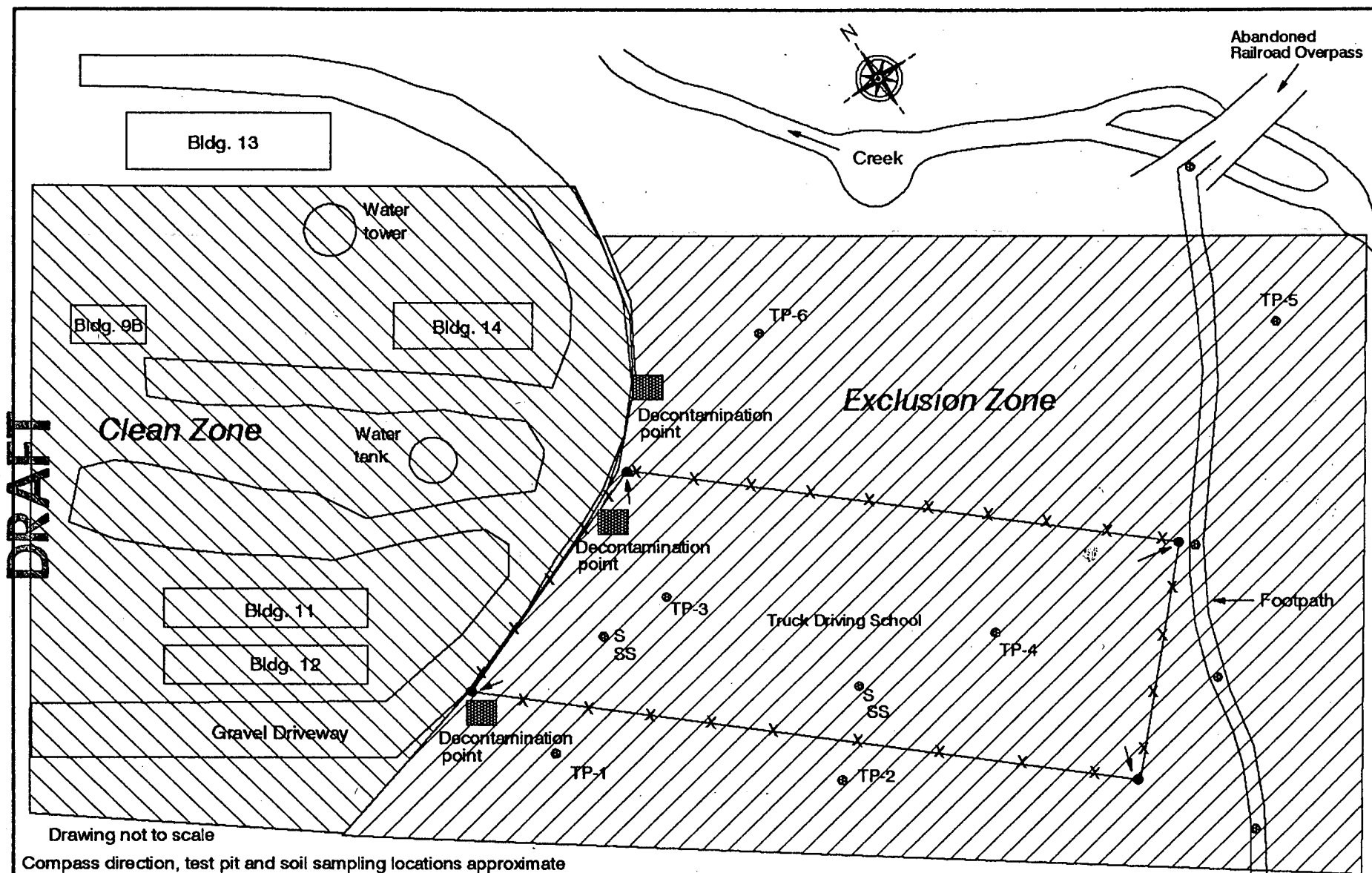
* Based on the highest analytical data for lead found at the site (2,200 ppm), the OSHA Action Level for lead (0.030 mg/m³) and a safety factor of 10.

8.0 **SITE CONTROL AND STANDARD OPERATING PROCEDURES**

8.1 Work Zones

The primary purpose of site control is to establish the hazardous area perimeter, to reduce migration of contaminants into clean areas, and to prevent access or exposure to hazardous materials by unauthorized persons. At the end of each work day, the site should be secured or guarded to prevent unauthorized entry, if applicable. The following subsections provide descriptions of the site work zones. A modified version of Figure 3, Site Sketch and Work Areas, is included as Appendix I.

Appendix I



Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION

EPA PM
N. Magriples

Cornell-Dubiller Electronics
 South Plainfield, NJ

IN ASSOCIATION WITH RESOURCE APPLICATION, Inc.
 C.C. JOHNSON & MALHOTRA, P.C., R.E. SARRIERA ASSOCIATES,
 PHC ENVIRONMENTAL MANAGEMENT, AND GRB ENVIRONMENTAL SERVICES, INC.

START PM
K. Campbell

**Figure 1: Work Zones
 and Test Pit Locations**